

PROCEEDINGS  
OF THE  
BIOLOGICAL SOCIETY OF WASHINGTON

---

NEW PLANTS FROM NEVADA.

II.

BY AVEN NELSON.

---

The small genus *Cleomella* seems to have had little attention in late years. In fact, both collectors and herbarium workers seem to have assumed that nothing more remained to be done. Its species being confined largely to the dry arid interior of our great southwest, which is still to a surprising extent unknown, we may expect many accessions to this small group of species when exploration shall be more complete. My attention was called to the genus by some specimens from Prof. P. B. Kennedy that I found difficult to place. To clear up the difficulty I sought the privilege of examining the sheets found in the herbarium of the Missouri Botanical Garden. I wish here to acknowledge with thanks the courtesy of the Director, Dr. Wm. Trelease, in permitting me to examine this considerable series of specimens. As a result of these studies it seems to me that the following should be characterized. In addition to the species of *Cleomella*, six other new species and a new genus are here described.

***Cleomella Hillmani* sp. nov.**

Erect from a tap-root, bright green and perfectly glabrous throughout; the main axis moderately stout, often simple but usually with a few slender ascending branches from near the base, 1-3 dm. high; leaves long-petioled (the petiole 1 to 4 times as long as the leaflets); leaflets from oblong to elliptic, generally rounded at both ends, sometimes subcordate at apex,

8-14 mm. long; bracts simple (except possibly the lowest), oval to oblong, subcircular; sepals short, ovate, long-acuminate; petals golden yellow, narrowly elliptic, about 5 mm. long, much surpassed by the stamens; stipe at length 15 mm. long, usually a little longer than the pedicel; style subulate, 2 mm. or less long; capsule rhomboidal, when fully developed 8 mm. broad, a little less in length; seeds subspherical, 2-3 mm. long, straw-colored, smooth.

I would pronounce this Dr. Watson's *C. longipes grandiflora* if he had not said that the seeds of that were dark colored and rugose or pitted. Mr. W. H. Hillman, while he was professor of botany at the University of Nevada, evidently studied the species very carefully. One of the sheets bears excellent drawings of the floral parts with the note, "possibly a new species." The sheet also bears the note, "common—giving the bright yellow to the hills in May." Nevertheless, of the four specimens at hand, all but one are from Reno, by Hillman, by Cowgill, and by Jones, and distributed as *C. longipes*. Mr. Jones also collected it the same year (1897) at Columbus, Nevada, but distributed it then as *C. obtusifolia*.

#### ***Cleomella taurocranos* sp. nov.**

Freely branched from a stout semiwoody tap-root, the main branches again freely branching from near the base, the branches ascending and the whole forming a subspherical plant 2-3 dm. in diameter; stems pale, nearly smooth, floriferous nearly to the base; leaves short-hispid, pale-green, on petioles as long or longer than the leaflets; leaflets oval to oblong or oblanceolate, 5-10 mm. long; the stipules a small fascicle of bristles; flowers solitary-axillary, small; sepals minute, terminating in a long bristle; petals oblong, 4-5 mm. long, narrowed to a short claw; filaments not exceeding the petals; style about 2 mm. long; the capsule smooth, about 4 mm. high or long, 10 mm. broad; the valves enormously produced laterally, the broadly dome-shaped bases narrowed into the slightly deflexed horns; the fruiting pedicels about 8 mm. long, somewhat exceeding the slenderer recurved stipe; seeds nearly spherical, smooth and pale.

This strongly marked species is allied to *C. obtusifolia* but is at once recognized by its remarkable resemblance to the common tumble weed *Amaranthus albus*. In habit, color, general aspect of leaf and pubescence it is strongly suggestive of that. In its remarkable fruits one can not fail to recognize it. They are strongly suggestive of a bull or bison skull. The broad bases of the valves forming the face, on either side of which are the slightly depressed horns. But one specimen is known to me, Mr. C. R. Orcutt's No. 1484, from a clay hill, Colorado Desert, San Diego County, California, June 23, 1888. Type in the Missouri Botanical Garden.

#### ***Cleomella obtusifolia pubescens* var. nov.**

Erect, 2-3 dm. high, branched from the crown of the tap-root, the main branches bearing numerous divaricate branchlets, all striate and more or less roughened with short fragile bristles; leaves very numerous and crowded, somewhat roughened with kinked viscid hairs, the petiole shorter than the small leaflets; the leaflets 5-8 mm. long, oval, ovate or oblanceo-

late, generally obtuse; the stipules consisting of several rather long flattened more or less persistent bristles; flowers crowded on the branchlets, small; sepals nearly linear, short, aristate; petals oblong, obtuse, 3–4 mm. long, scarcely equalling the somewhat stouter pedicel; style slender, as long as the fruit; fruit densely short-hispid or hirsute, about 3 mm. long, and somewhat broader, the valves short-conical; seeds straw-colored when dry, darker if wet, smooth, 1.5 mm. or less in length.

The type was collected in the Mohave Desert, October 30, 1880, by Dr. Geo. Engelmann who indicated it as a new species and the specimen in the Missouri Bot. Gard. Herb. bears a herbarium name. Some one has penciled upon the sheet the varietal name under which I describe it in full. It is quite possible that it ought to be written *Cleomella pubescens* sp. nov. It differs from *C. obtusifolia* in habit, pubescence, size of plant and flower and in the narrow, simple (not lacinate) sepals. I would place here also the following: C. A. Purpus 5562 and 6044 from southeastern Calif.; A. D. E. Elmer 3629, Lancaster, Calif.; and sheet No. 5617 in the Engelmann Herbarium.

**Sphaerostigma senex** sp. nov.

A small annual mostly less than 2 dm. high, white hirsute-villous throughout; stem simple, diminishing gradually from the base; leaves from oblong to oval, irregularly dentate or crenate, diminishing uniformly from the base upward, the lower short petioled, 3–5 cm. long, inflorescence a crowded somewhat drooping or secund spike; flowers white; sepals lanceolate, 7–8 mm. long, equalling the calyx tube and about as long as the ovary; petals broadly oval or suborbicular, somewhat exceeding the sepals and about as long as the filaments and style which are subequal; capsule short-villous, straight, linear, 12 mm. or more in length.

Allied to *S. Utahense* but distinguished at once by the white flowers which are quite different in their parts. Only one sheet of specimens known to the writer and this deposited in the herbarium of the University of Nevada. Collected by G. H. True at Pyramid Lake, Washoe Co., June 9, 1903.

**Zaushneria argentea** sp. nov.

Silvery-gray throughout, the pubescence short and loose, herbaceous nearly or quite to the ground; stems 2–3 dm. high, simple or with paired slender branchlets from some of the axils; leaves lanceolate-oblong or broader, generally widest near the middle and tapering to both ends, only the midvein discernible, rather numerous, besides the paired leaves often some fascicled ones in the axils (these representing the undeveloped branchlets); flowers few, in a short terminal raceme; calyx pubescent, its lobes and the petals homochromous, subequal; petals obovate, deeply bifid; stamens not surpassing the petals and the stigma barely exerted.

If the venation of the leaves has any significance as a diagnostic character (and from the examination of a number of specimens I am inclined to think it is one of the best) this is an excellent species. Following Dr. Greene's division (Pitt. 1: 25) this falls in with *Z. Californica* in spite of its

much broader leaves which would ally it rather with *Z. latifolia*. From both of these species it differs in its included stamens and its loose silvery pubescence. The only specimens I have are from Nevada, No. 278 by Kennedy and Doten, and No. 896 (type) by Kennedy, from Broncho Creek, Washoe Co., August 17, 1904.

#### **Rhamnus Nevadensis** sp. nov.

Leaves herbaceous, the young leaves thinly so (not at all coriaceous), elliptic-oblong, mostly obtuse, minutely crenate-serrate, glabrous except for a slight puberulence on the conspicuous midrib and veins beneath, 3-5 cm. long, on relatively short slender petioles; flowers subumbellate; calyx small, its lobes broadly deltoid-triangular, shorter than the tube; petals minute, nearly aborted, broadly obreniform not more than 1 mm. broad, considerably shorter, the apical notch very evident; filament so short that the anther is partly enclosed by the minute petal; fruit when mature about 1 cm. in diameter, subspherical (slightly bilobed), black; seeds 2, hemispherical but somewhat narrowed at base.

This is a close ally of *R. Californicus* Esch. From that, however, it differs very essentially in its non-coriaceous leaves, its short calyx-lobes, its minute petals which are broader than long, its very short stamens, and its seeds which are narrowed at base. The complete and accurate description of *R. Californicus* by Dr. Greene in Fl. Fran., 80, serves to nicely bring out the distinctions between that species and *R. Nevadensis*. I base the species upon two collections; flowering specimens by M. E. Jones, near Reno, June 11, 1897; fruiting specimens by P. B. Kennedy, No. 953, Verdi, September 29, 1904.

#### **Polemonium montrosensis** sp. nov.

Root woody, surmounted by a short branched caudex from which spring a few short (8-15 cm. long) stems and several-many much shorter leaves; minutely glandular-puberulent throughout but green and glabrous to the naked eye; leaflets crowded but distinct, 6-12 pairs, broadly ovate, obovate or orbicular, thin and delicately reticulate-veined, rounded-obtuse or sometimes on the same plant subacute; inflorescence cymulose; calyx campanulate; its lobes ovate, about 3 mm. long, equalling the tube; corolla pale blue, campanulate-funnelform; its tube not surpassing the calyx; its lobes suborbicular, entire, as long as the tube; stamens about equalling the corolla lobes; the filaments slender, not dilated, minutely pubescent on the line of insertion only.

Allied to *P. elegans* Greene (Pitt. 3 : 305), but of somewhat different habit and its corolla-tube not yellow. That species besides is extremely viscid, even more so than its near relative *P. viscosum*. In fact *P. montrosensis* has but little in common with *P. elegans*, *P. viscosum*, and *P. confertum* except leaf-character. In habit and inflorescence it is rather allied to *P. pulchellum*, which name indeed the type specimens bore. No collections are at hand except the following: J. E. Church, June, 97; and S. B. Doten,

July, 97; both collections from Mount Rose, Nevada, probably from near the snow bank on the northwestern slope of its volcanic summit. I name Doten's specimens as the type.

**Bosleria Nevadensis** gen. et sp. nov.

A small viscid-pubescent annual with the branching habit and the leaf aspect of *Physalis*; tap-root-breaking up into fibrous roots; floral characters near those of *Solanum*; flowers minute, less than 5 mm. long; calyx cleft nearly to the base into oblong subacute segments; the tube of the corolla very short, its limb rotate-campanulate, with 5 short triangular acute lobes; stamens inserted in the throat of the corolla, a little shorter than the corolla lobes; the filaments relatively broad, not so long as the conspicuous anthers; connivent anthers open terminally by very evident pores but also easily rupture by longitudinal slits; fruit not known; probably a berry.

The above description is a preliminary announcement of this solanaceous plant which seems to represent a very strongly marked genus. It was collected by Mr. G. H. True at Pyramid Lake, Washoe Co., Nevada, June 9, 1903. Prof. Kennedy expects to collect in that region this year and hopes to secure it again in quantity for complete characterization. This is the second monotypic Solanaceous genus that Nevada has furnished, the other being *Oryctes Nevadensis*. I wish to dedicate the genus to my college friend, Mr. Frank C. Bosler, of Carlisle, Pa., whose scholarly interest in scientific work is greatly appreciated, and whose active interest in the development of the West both as regards its educational phases and its physical resources makes such recognition fitting.

**Artemisia Kennedyi** sp. nov.

Perennial from rootstocks, 6-10 dm. high, the stems erect, simple, 6-10-striate, puberulent; leaves 5-12 cm. long, numerous, mostly lanceolate, the lower more or less dentate and laciniate, the upper and floral entire, acute, all green and glabrous on the upper face with often numerous minute scattered resinous particles, permanently and closely lanate-tomentose on the lower face; panicle narrow or sometimes freely branched below and thus pyramidal, 3-5 dm. long, quite leafy below but the leaves passing into linear bracts above; heads crowded, ovoid, 3-4 mm. high, involucre permanently white-lanate; its bracts involved in the wool, broadly spatulate, the margins and the upper half membranous; flowers liberally sprinkled with large resin particles, 12-20 in number, about equally divided between the slender marginal pistillate ones and the larger hermaphrodite ones of the disk, all fertile.

Mr. C. V. Piper in his article, New and Noteworthy North western Plants (Bull. Torr. Bot. Club, 28: 42), clears up the confusion as to that maritime species which has been known by the untenable names *A. vulgaris Californica* Besser, and *A. heterophylla* Nutt. To this plant he gives the name *A. Suksdorfii* and definitely limits it to the sea-coast species. That was in fact done by most of the earlier writers as well, but some collectors and writers have confused with it this inland species of the same general habit

and, like that, with the leaves glabrous above. The two are, however, readily separated even in the field, for *A. Suksdorfii* always has the pale green, shining, glabrate, slender involucre and the few flowered heads (5-8) while *A. Kennedyi* is with equal uniformity white-lanate on the broad involucre and the heads are many flowered (12-20). In the former the tomentum is close fine and felted, giving to the under side of the leaf a white-glaucous hue in strong contrast to the dark green of the upper face; in the latter the tomentum is looser and easily recognized as wool by the unaided eye. One is a seacoast species; the other of the hills and valleys, and extends into the dry interior.

I take as type Prof. Kennedy's No. 963, Verdi, Washoe Co., Nevada. I place here also the following: Kennedy and Doten, 423, French Meadows, California, August, 1901; Michener and Bioletti, L. Temescal, August, 1891; A. A. Heller, 7195, Pacific Grove, August, 1903; 7209, hills near Los Gatos, September, 1903.